

REMARKS

This application pertains to a novel combination static mixer/heat exchanger.

Claims 1-21 are pending.

Claims 1-21 stand rejected under 35 U.S.C. 112, first paragraph, because the Examiner sees no support for the recitation "being closed to the interior of the housing".

In point of fact, and as pointed out in Applicants' last response, support for these limitations is found throughout the specification, in particular, Figure 2a and the discussion of Fig. 2 at page 22. The disclosure at page 6, lines 18-20, that the temperature of the tubes may be controlled by passing a heat-transfer fluid through them will also be seen by those skilled in the art as meaning that the tubes are isolated from the interior of the reactor housing, just as the interior of the tubes of any heat exchanger, such as a shell and tube heat exchanger, are isolated from the housing or shell of the heat exchanger.

In any case, in a determined effort to advance the prosecution of this case, Applicants have now amended the claims to simply recite that the tubes convey heat transfer medium through the product space. This is clearly supported by e.g. figure 2a, where the tubes can be seen passing through the product space.

The amended claims more specifically recite that the housing has a product

space for a product to flow through, and tubes which convey heat transfer medium through the product space. Support for these limitations are found at page 6, paragraph beginning on line 15 and figures 2 and 2a. Note that in Figs. 2 and 2a the product can be seen flowing through the product space, and the tubes can be seen passing across the product space. Note that in Example 2, page 22, the tubes are described as having one end opened into a heat transfer medium supply chamber and the other end to a heat transfer medium discharge chamber. On page 23, line 8, the specification recites "product-flow region". In the claims, Applicants have used the expression --product flow space--, which is believed to be more conventional language, but yet synonymous with the expression "product flow region". Should the Examiner prefer, Applicants' would be willing to further amend the term "space" to --region--, but believe that --space-- is a term which is more correct, yet is fully supported by the term "region".

Applicants respectfully point out that drawings alone may provide a written description of an invention as required by Section 112 (MPEP §2163(II)((A)(3)(a)). If a skilled artisan would have understood the inventor to be in possession of the claimed invention at the time of filing, even if every nuance of the claims is not explicitly described in the specification, then the adequate description requirement is met. The description need not be in *ipsis verbis* to be sufficient (MPEP §2163(II)((A)(3)(a)).

Any person skilled in the art, having read the present description and reviewed the drawings will clearly see that the inventors herein are in possession of the invention recited in the claims, and that the specification and drawings meet the written

description requirement for the amendments presented herein.

It is also clear from the foregoing language and drawings, as well as the understanding of those skilled in the art regarding heat exchangers, that the heat exchange tubes of the present invention convey heat transfer medium through the product side of the heat exchanger/mixer, to heat or cool the product flowing through the product side.

The language referred to by the Examiner at page 12, lines 15-19, relates to one embodiment of the present invention, wherein at least one tube passes through the heat transfer medium supply or discharge regions, and has openings through which additional reactants can be supplied to the product flowing through the mixer/heat exchanger. This is an extra feature; namely a feed tube through which reactants can be added to the product side of the heat exchanger. Note that the tube in question passes through the heat transfer media supply or discharge area, and therefore does not carry heat transfer media. This is not a substitute for the claimed heat transfer tubes, but just a further feature which is present in addition to the heat transfer tubes. This language clearly does not "teach away" from the heat exchange tubes being isolated from the product side of the heat exchanger.

The rejection of claims 1-21 under 35 U.S.C. 112, first paragraph should accordingly be withdrawn.

Furthermore, the claims should not be rejected as anticipated by or obvious over Streiff et al. (US Re. 36,969). As previously pointed out, Streiff's tubes (20) do not pass "through" Streiff's housing, but rather pass into the housing and discharge directly into the housing. Streiff's tubes (20) pass into, but not out of, Streiff's housing. Applicants' tubes clearly pass into and out of the product space, and do not discharge into the product being heated or cooled.

In view of the present amendments and remarks it is believed that claims 1-21 are now in condition for allowance. Reconsideration of said claims by the Examiner is respectfully requested and the allowance thereof is courteously solicited.

CONDITIONAL PETITION FOR EXTENSION OF TIME


If any extension of time for this response is required, Applicants request that this be considered a petition therefor. Please charge the required petition fee to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fee or credit any excess to Deposit Account No.

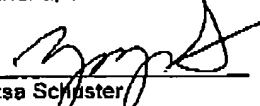
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Respectfully submitted,
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By 
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